

Northwest Climate Toolbox

<http://climatetoolbox.org>

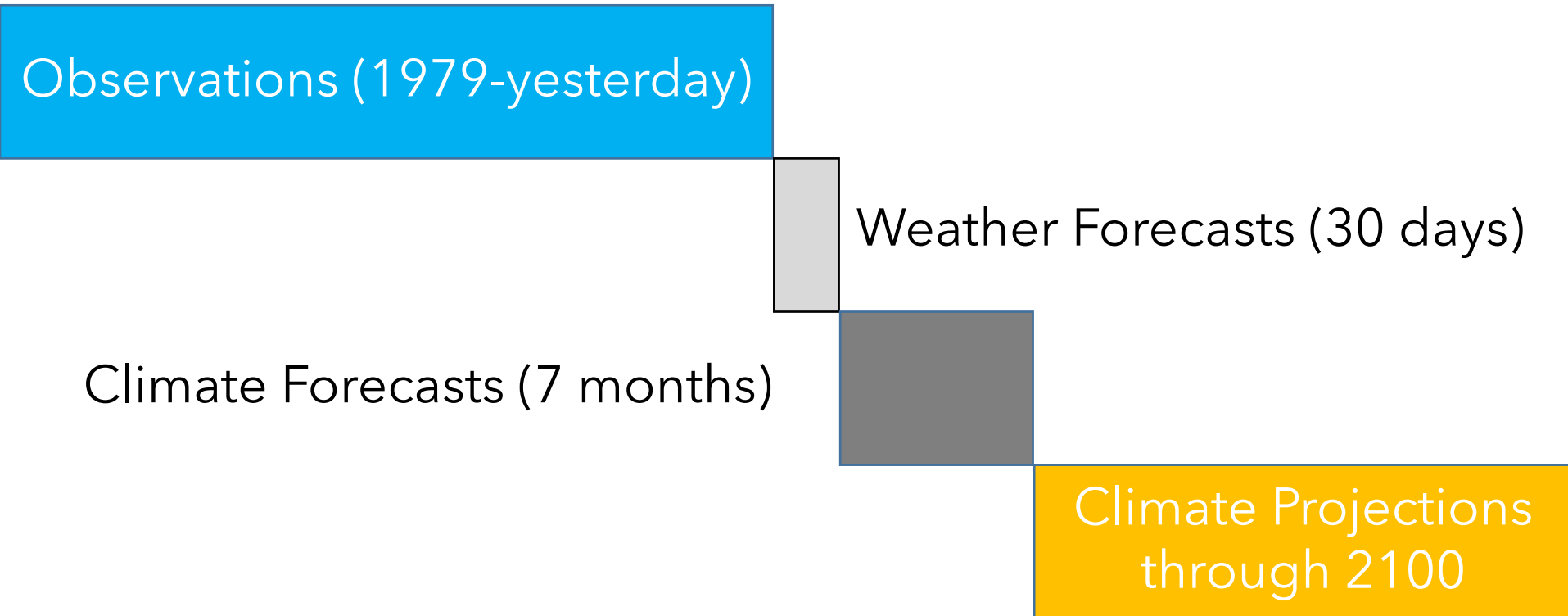
The Data Challenge

1. Increasing amount of climate data
2. Need to convert to useable information to inform action
3. Coproduction of knowledge with climate stakeholders
4. Climate *services*



0	1	0	1	0
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0	1	0	1	0
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Seamless climate information stream



Common ~2.5 mile resolution grid across CONUS (+ southern BC)
VIC hydrologic modeling done for the NW currently*

The Northwest Climate Toolbox

A collection of web tools for visualizing past and projected climate and hydrology of the Pacific Northwest, USA.

Applications

These tools are to help with decision making in fire, water management, agriculture and climate monitoring.



AGRICULTURE



CLIMATE

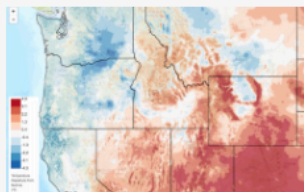


FIRE



WATER

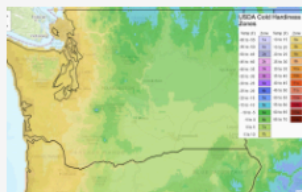
Tools



AgClimate Atlas

Explore current and future climate information across multiple sectors [i](#)

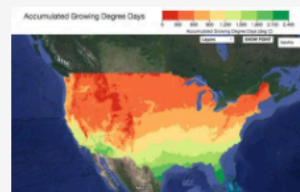
Launch Tool



Cold Hardiness Zones

View current and projected cold hardiness and crop suitability zones [i](#)

Launch Tool



Growing Degree Day Tools

Explore current and forecasted phenology of crops, pests, and weeds [i](#)

Launch Tool



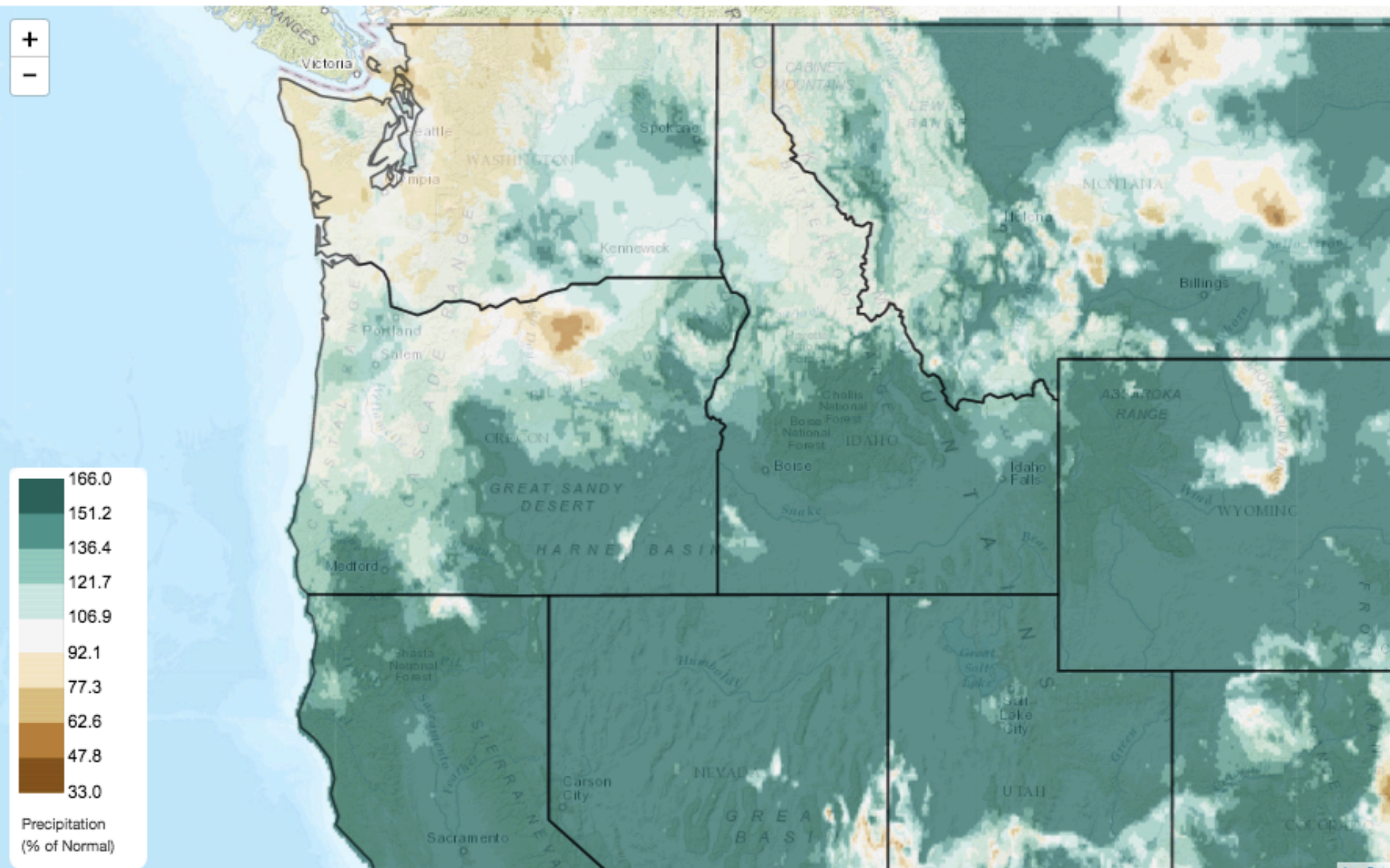
Climate Dashboard

Agroclimatic summaries of historical and future climate for selected location. [i](#)

Launch Tool

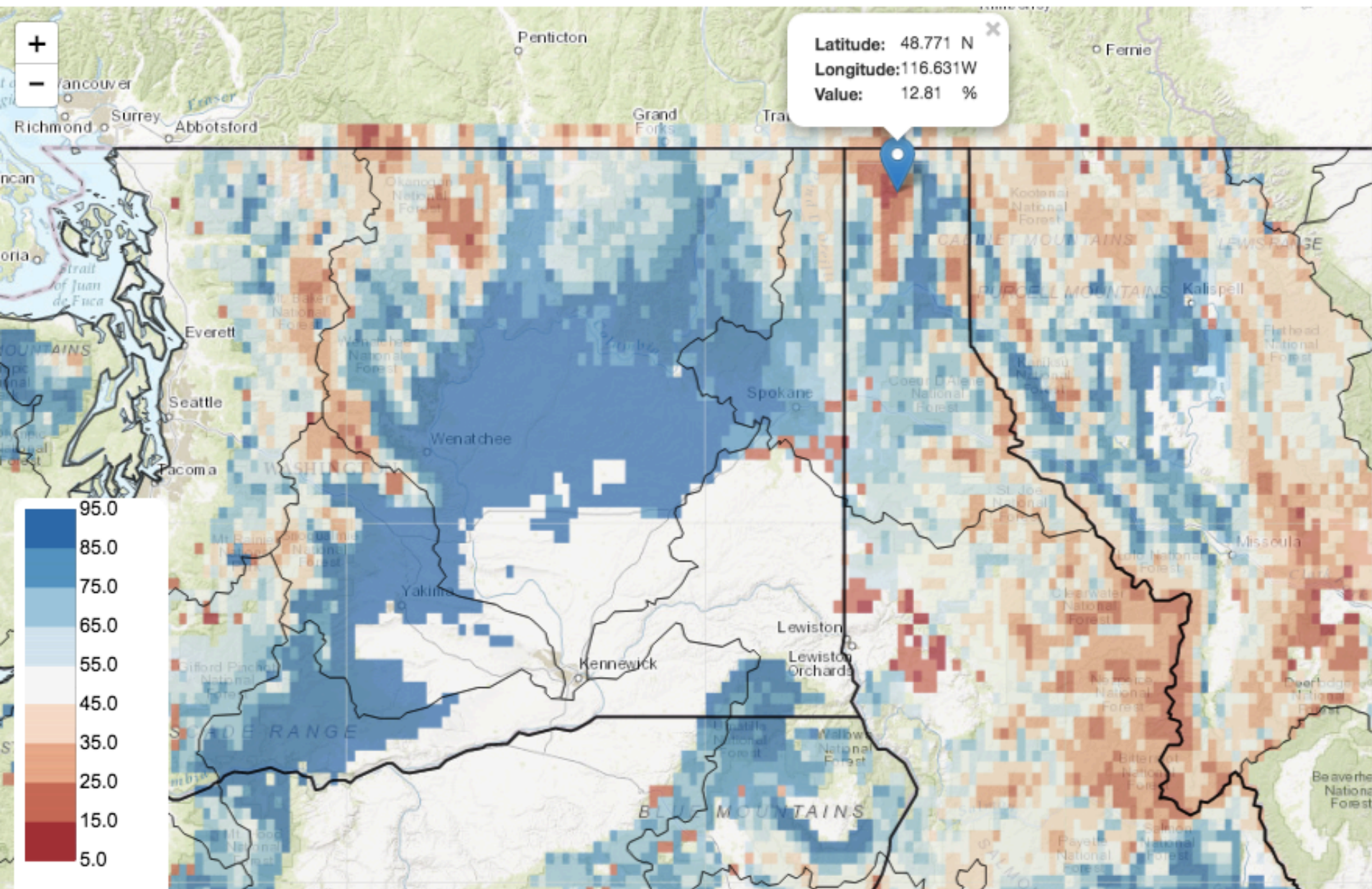
Last 90 Days Precipitation (% of Normal)

Data Source: [gridMET 4-km dataset \(U Idaho\)](#), 2016/11/28 - 2017/02/25

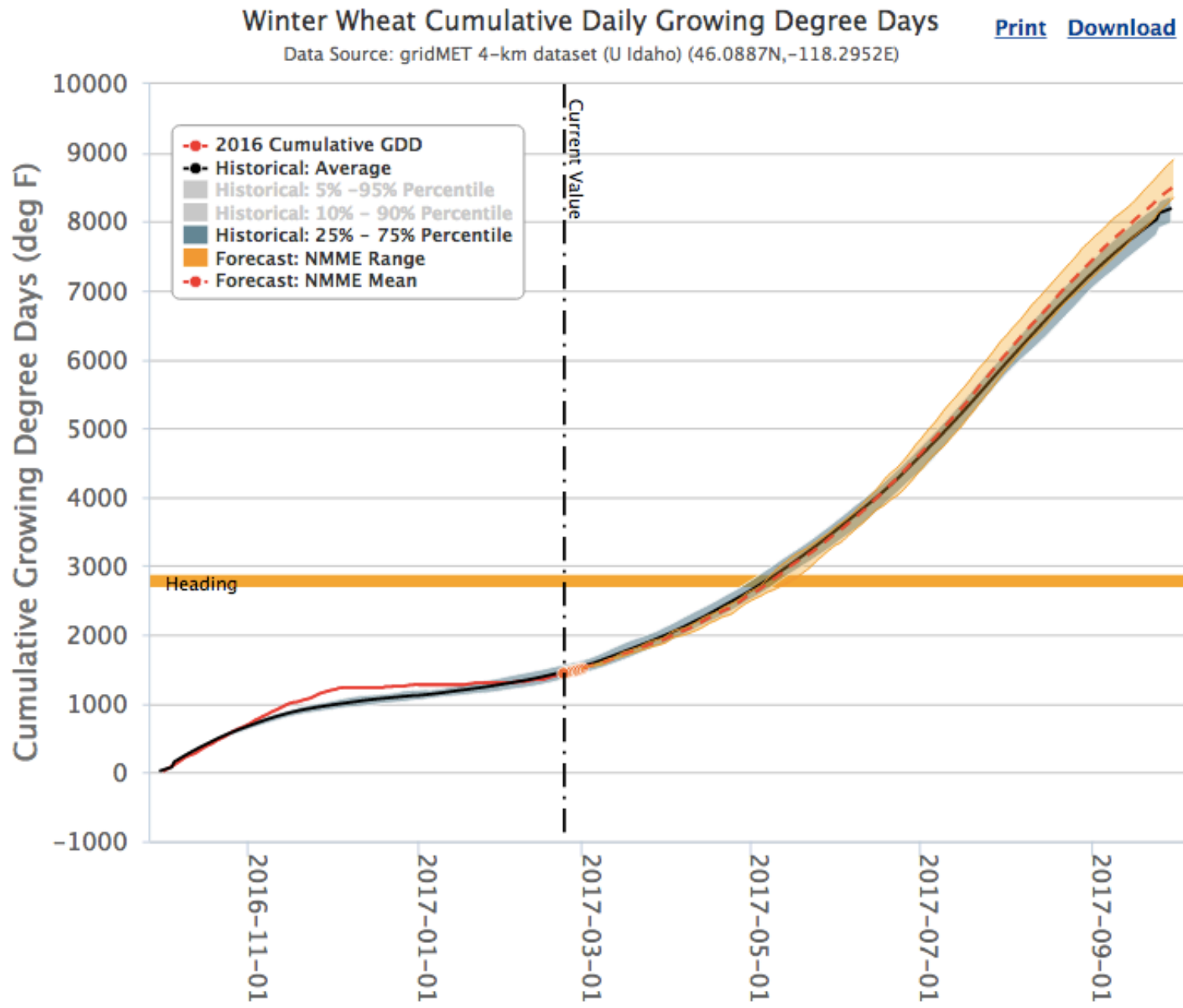


Data Source: [VIC - gridMET 4-km dataset \(U Washington\)](#), 2017/02/25

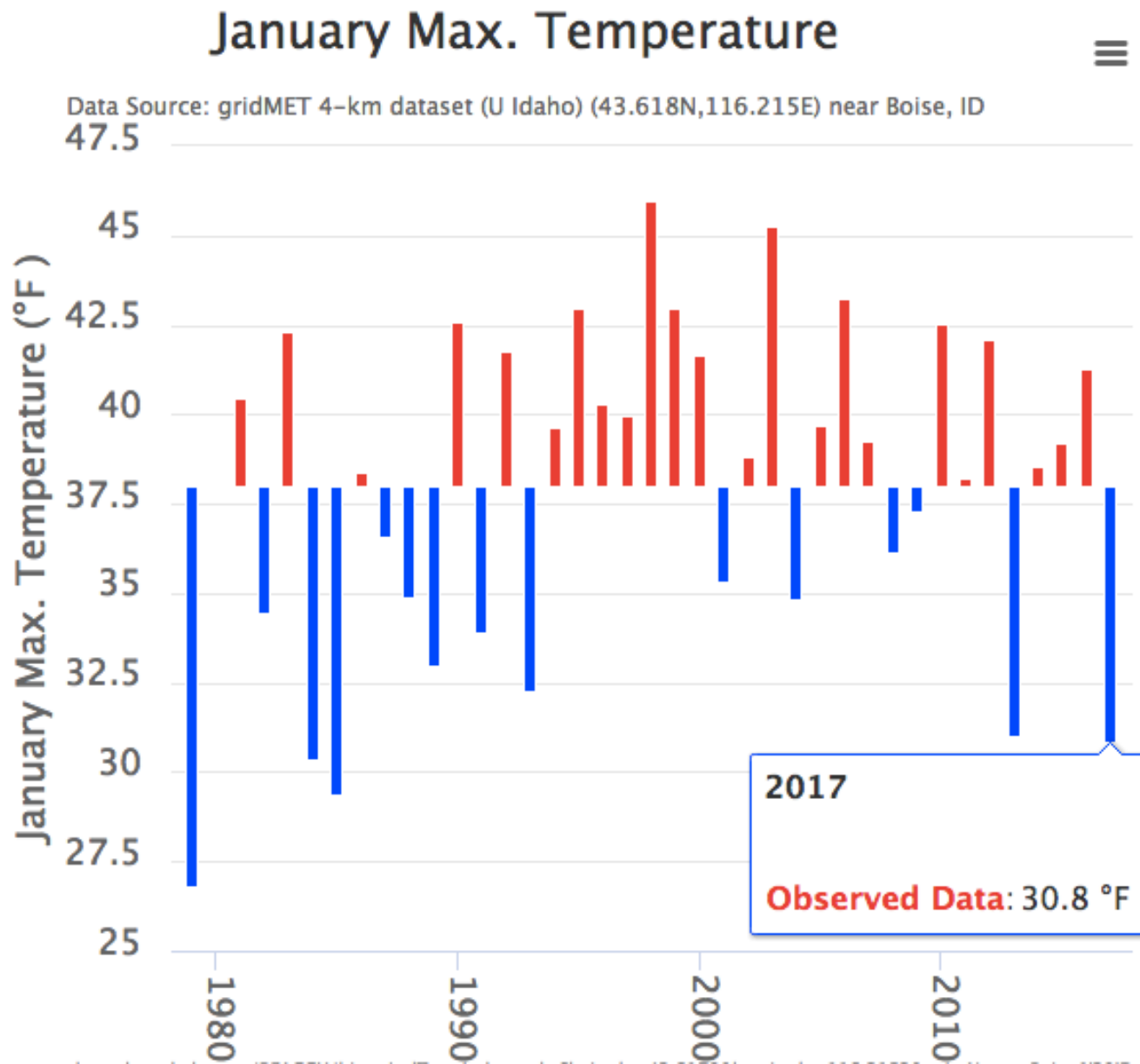
Data Source: [VIC - gridMET 4-km dataset \(U Washington\)](#), 2017/02/25



Phenology Tool: winter wheat



Interannual Variability



Climate Dashboard

--About --Directions

Wenatchee, WA (47.413°N,120.324°W)

2040-2069 vs 1981-2010 under high future emissions scenario

Precipitation

Potential Evapotranspiration

1981-2010

9.8"

Annual Total

2040-2069

10.4"

Annual Total

1981-2010

46.1"

Annual Total

2040-2069

52.2"

Annual Total

Summer Temperatures

Winter Temperatures

1981-2010

84.5°F / 57.2°F

High / Low

2040-2069

91.9°F / 63.3°F

High / Low

1981-2010

37.8°F / 24.8°F

High / Low

2040-2069

42.9°F / 30.6°F

High / Low

Hottest Summer Day

Coldest Winter Day

1981-2010

100.9°F / 6

Average / Heat Zone

2040-2069

108.8°F / 7

Average / Heat Zone

1981-2010

0.8°F / 7a

Average / Hardiness Zone

2040-2069

10.5°F / 8a

Average / Hardiness Zone

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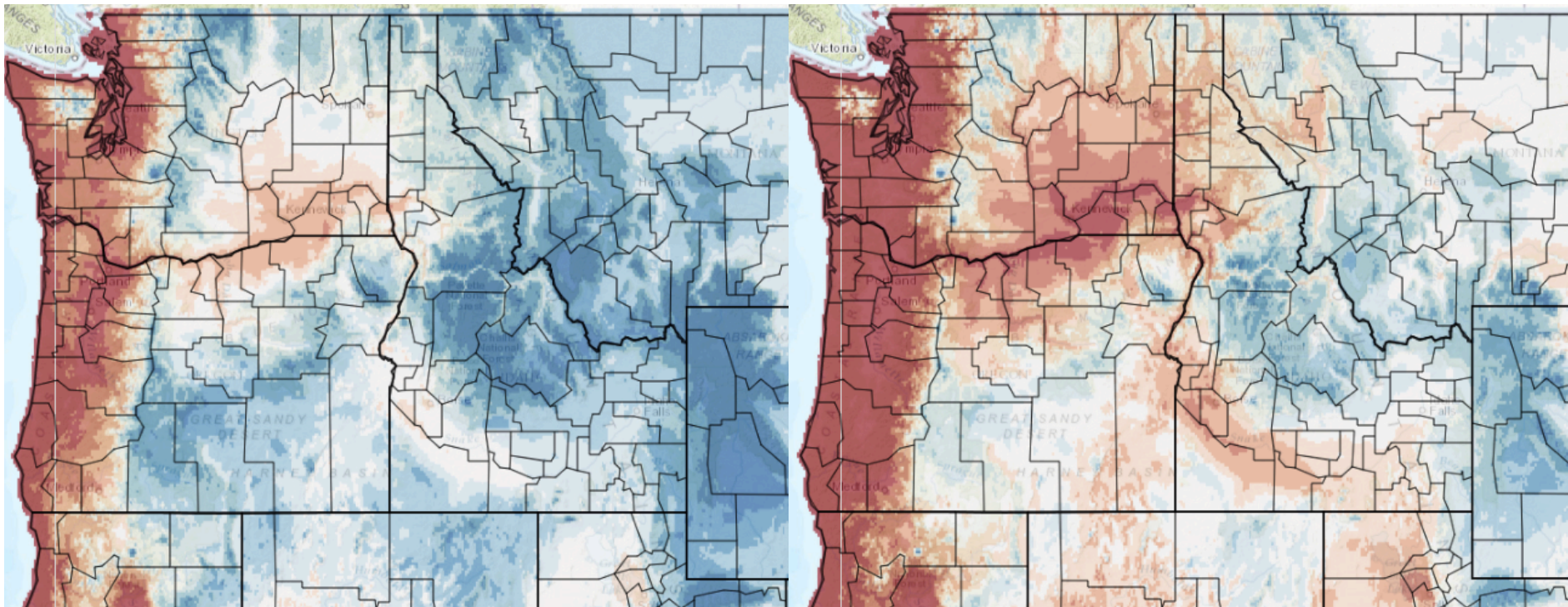
United States Department of Agriculture
Northwest Climate Hub



Freeze Free Days Per Year

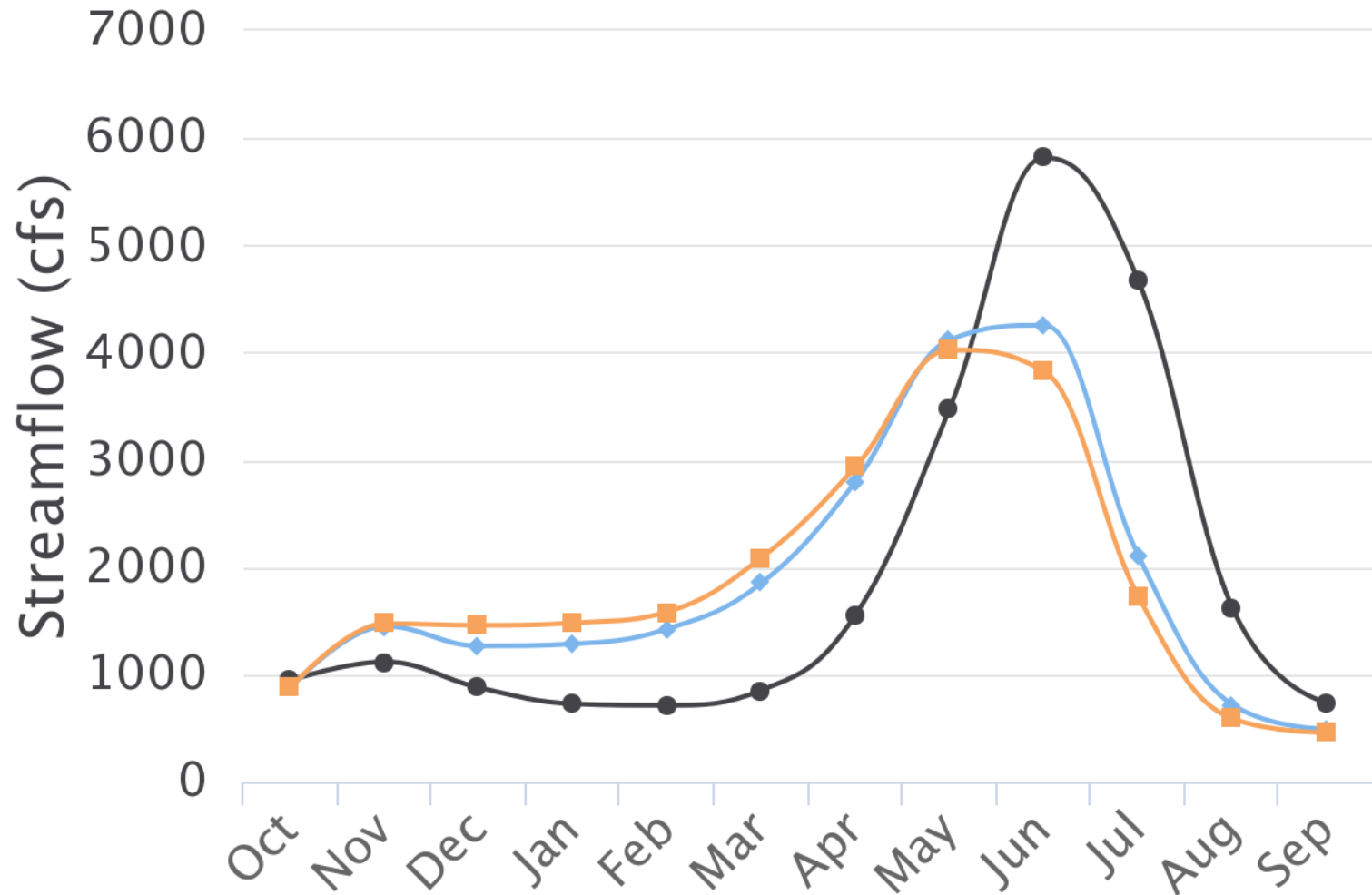
Historical

Mid-21st Century, RCP8.5



Projected Streamflow (2040–2069) Yakima River At Cle Elum, WA

Source: Integrated Scenarios CMIP5–MACAv2LIVNEH–VIC
10CMIP5ModelMean



Significant increases in the frequency of 7Q10 flows under climate change

● **Historical** ◆ **RCP 4.5** ■ **RCP 8.5**